IROX-XL P

User manual

TABLE OF CONTENTS

1. INTRODUCTION…… page 3
2. BASIC OPERATION OF BUTTONS…… page 4
3. MODE CHANGE OPERATION…… page 5
4. TIME MODE…… page 6
5. COMPASS MODE…… page 7
6. BAROMETER MODE…… Page 9
7. ALTIMETER MODE…… page 11
8. ALTIMETER DATA MODE…… page 12
9. CHRONOGRAPH / HEART RATE MODE…… page 13
10. ALARM MODE…… page 16
11. SERVICE…… page 17

1. INTRODUCTION

This device is a digital product that provides altimeter, barometer, compass, altimeter data, dual time, chronograph, chronograph data and alarm functions.

Features:

Altimeter

- 1 meter (or foot) resolution and with working range from -700 meters (-2296 feet) to 9000 meters (29520 feet).
- Graphical expression of changes provided.
- Unit in meters or feet selectable.
- 20 memories with date, time and altitude reading.

Barometer

- 1 hPa resolution and with working range from 300 hPa to 1100 hPa.
- Graphical expression of changes provided.
- Both sea level pressure and absolute pressure can be shown.
- Weather forecast.
- Temperature displayed in °F or °C selectable.

Compass

- Electronic compass providing 16 cardinal indications together with bearing in degrees.
- Declination correction provided.

Time

- 2 time modes selectable.
- Presents day of the week, day, hours, minutes and seconds (year and month can also be set).
- 12/24-hour formats selectable.
- Auto-calendar from 2000 to 2049.

Stopwatch/ Heart rate monitor (HRM)

- Stopwatch resolution 1/100-seconds, running up to 24 hours.
- Split time function
- Display of current pulse rate (bpm) from chest-belt
- Display of training zones in bpm or in % of maximum pulse
- Indication of calorie consumption

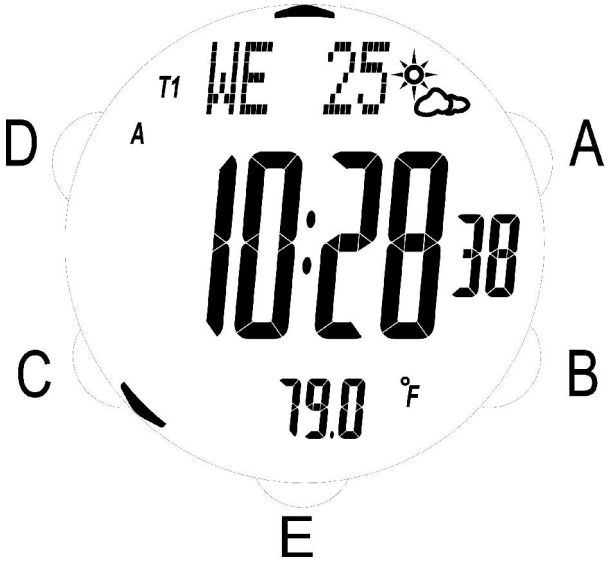
Alarm

- 2 daily alarms.
- Hourly chime.

Electro-luminescent backlight

- 3 seconds light up EL backlight.

2. BASIC OPERATION OF BUTTONS



A: - SWITCH AMONG DISPLAYS
- TAKE BEARING
- STORE ALTITUDE DATA (PRESS AND HOLD)
- FORWARD SELECTION OF ALTITUDE DATA
- START/LAP OF CHRONOGRAPH
- RETRIEVE DATA IN RUN
- TURN ALARM ON AND OFF
- FORWARD SETTING (SET OR CALIBRATION)

B: - SWITCH BETWEEN NORMAL TIME AND DUAL TIME (PRESS AND HOLD)
- SWITCH BETWEEN UNITS OF TEMPERATURE (PRESS AND HOLD)
- SWITCH BETWEEN UNITS OF ALTITUDE (PRESS AND HOLD)
- REVERSE SELECTION OF ALTITUDE DATA
- STOP CHRONOGRAPH
- SWITCH BETWEEN ALARM 1 AND ALARM 2
- REVERSE SETTING (SET OR CALIBRATION)

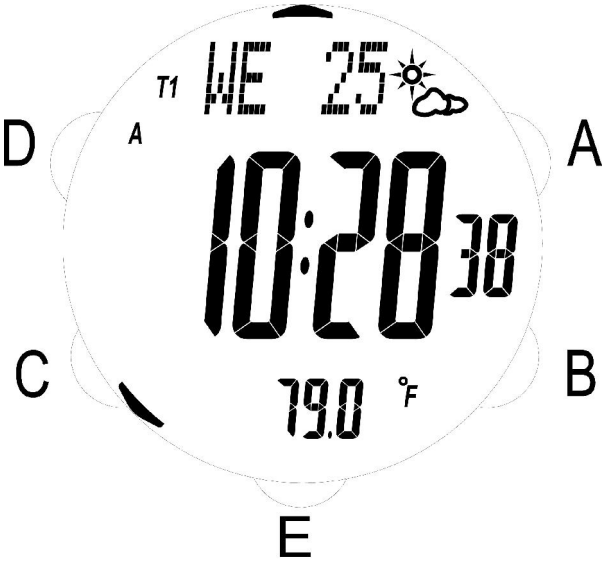
C: - MODE CHANGE
- DIRECT CHANGE TO TIME MODE (PRESS AND HOLD)
- ADVANCE TO NEXT SETTING (SET OR CALIBRATION)

D: - EL BACKLIGHT
- ENTER SET OR CALIBRATION (PRESS AND HOLD)
- CLEAR DATA (PRESS AND HOLD)
- EXIT (SET OR CALIBRATION)

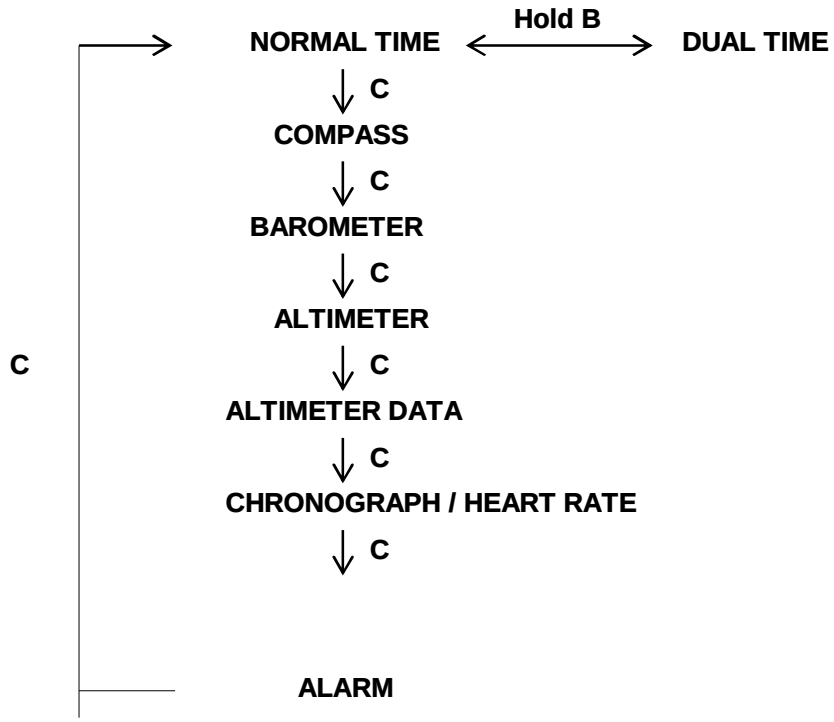
E: - SWITCH AMONG DISPLAYS
- SWITCH BETWEEN DATE AND ALTITUDE READING DISPLAYS
- SWITCH AMONG VARIOUS HRM DISPLAYS

EL BACKLIGHT
Press D for EL backlight with 3 seconds auto light up.

3. MODE CHANGE OPERATION

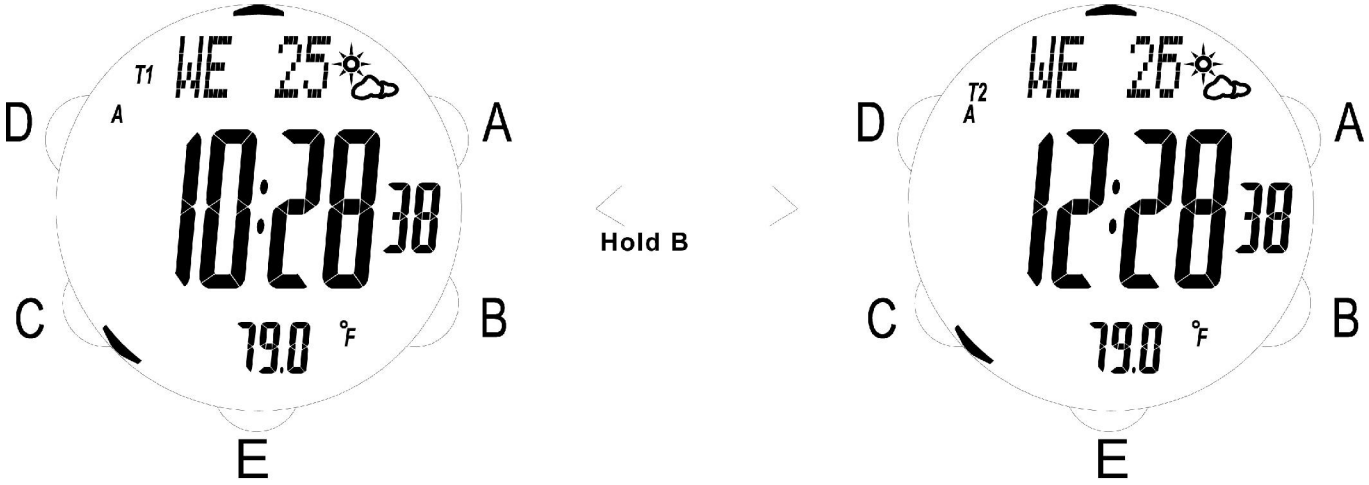


There are 9 modes: Normal Time, Dual Time, Compass, Barometer, Altimeter, Altimeter Data, Chronograph, Chronograph Data and Alarm.
Press C to change from mode to mode, hold down B to switch between Normal Time mode and Dual Time mode as in the following:



* At any mode, holding down C will change to Time mode directly.

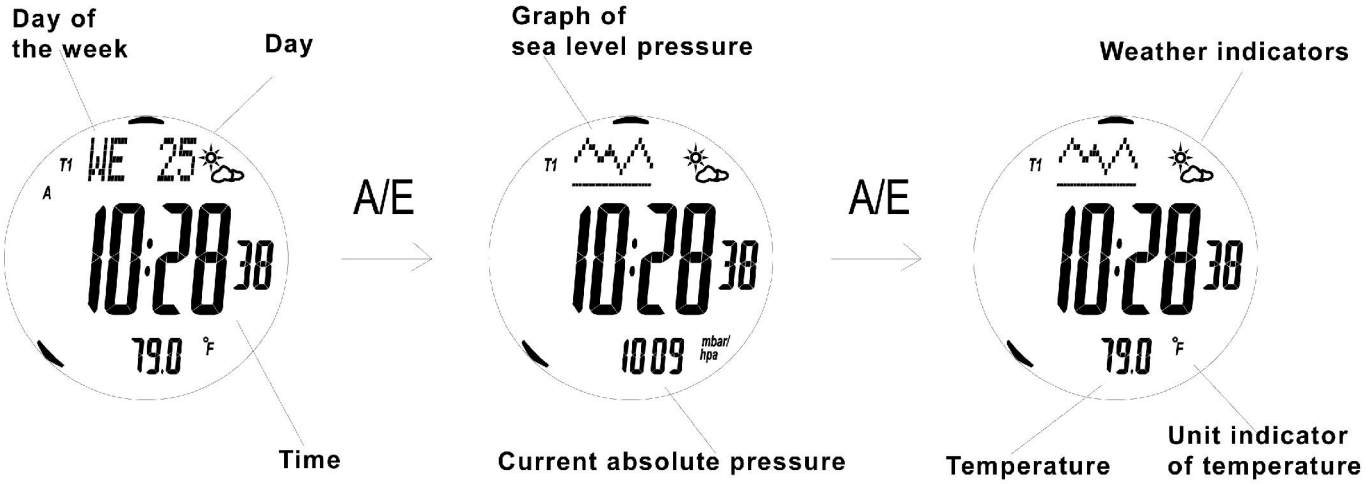
4. TIME MODE



Use C to enter Time mode.
* Mode prompt “TIME” is displayed first.
- There are 2 time modes, Normal Time (indicated by T1) and Dual Time (indicated by T2), and they count up individually with the same second.
- There are 3 displays for time. They are Time, Time with Barometer and Time with Weather.
- There is an auto-calendar from 2000 to 2049.

To switch between Normal Time and Dual Time
Hold down B until the mode indicator (T1 or T2) stops flashing to switch between Normal Time mode and Dual Time mode.

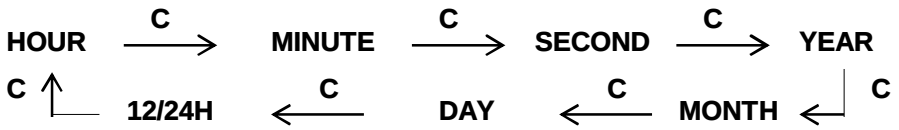
To switch among the 3 time displays
Use A or E to switch among the 3 displays for time.
* “TIME”, “BAROMETER” or “WEATHER” is displayed first.



* Graph of sea level pressure is described in BAROMETER MODE.

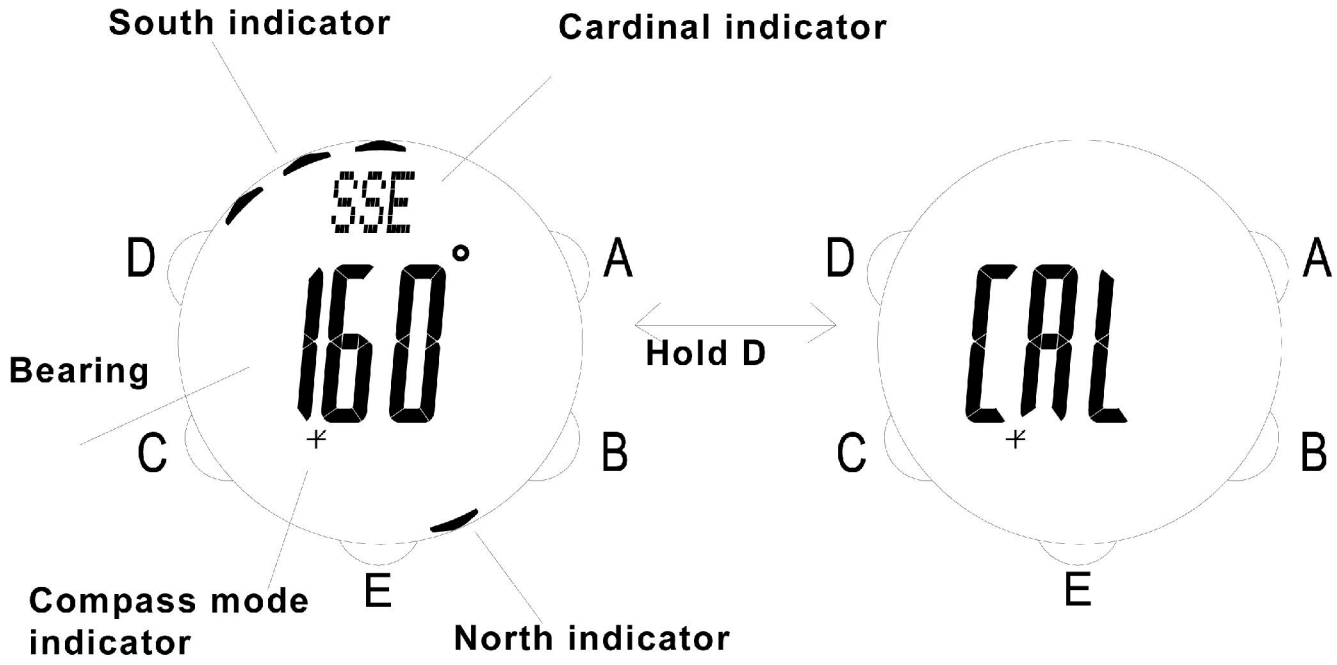
To set time

1. Hold down D until the hour digits start to flash on the display, which indicates the setting screen.
2. Use A (+) and B (-) to change the setting. Holding down either button scrolls the setting at high speed.
3. Press C to advance to the next setting as in the following:



   * When second digits are flashing, press A or B to reset the digits to 00. Resetting seconds when the digits are between 00 to 29 will leave the minute digits unchanged, or between 30 to 59 will increase the minute digits by one.
   * When 12 or 24 is flashing, press A or B to switch between 12- or 24-hour formats. If 12-hour format is chosen, AM or PM indicator will be shown.
4. Press D to exit the setting screen and day of the week will be adjusted automatically.
   * If there is no button operation for 2-3 minutes at setting screen, the display will return to Time mode automatically.

5.COMPASS MODE



Use C to enter Compass mode.

* Mode prompt “COMP” is displayed first and bearings will be taken automatically.

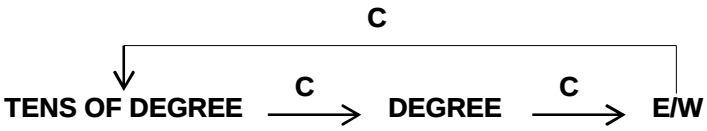
- Compass mode indicator is shown.
- When you take bearings, readings are shown in 16 cardinal indications together with bearing in degrees.
  * Reading shown indicates the direction that the LCD’s 12 o’clock position is pointing to.
- North-South arrow is shown on circumference of the LCD.
  * North is indicated by 1 flag and South is indicated by 3 flags.
- Declination correction is provided.
  * Declination is the difference between true north and magnetic north.

Importance

1. The compass should be calibrated before use.
2. The compass must be kept in a level position when in use.
3. Compass readings are easily affected by disturbing sources of magnetism, so the compass should always be used in the open air.

To calibrate the compass

1. Hold down D until “CAL” is shown on the display, which indicates the calibration screen.
2. Rotate the product slowly for 2 complete rotations.
   * Each rotation must last for at least 15 seconds.
3. Press D and the ten-degree digit starts to flash on the display, which indicates the declination angle setting screen.
   * Press A will end calibration skipping the declination angle setting. In this case, the declination angle is set to 0 degree.
4. Use A (+) and B (-) to change the setting. Holding down either button scrolls the setting at high speed.
5. Press C to advance to the next setting as in the following:



   * When E or W is flashing, press A or B to switch between East and West.
   * You should consult your local organization for information of declination. Declination angles for major cities are listed below for reference only.

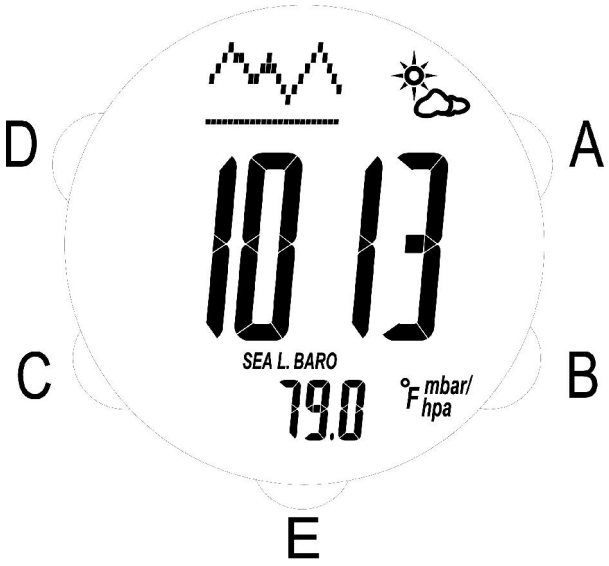
City	Declination Angle	City	Declination Angle	City	Declination Angle
Anchorage	22° E	Jerusalem	3° E	Rio De Janeiro	21° W
Atlanta	4° W	London	4° W	San Francisco	15° E
Auckland	19° E	Little Rock	3° E	Seattle	19° E
Berne	0° E	Livingston, MT	14° E	Shanghai	5° W
Bombay	1° W	Munich	1° E	Stockholm	4° E
Boston	16° W	New York City	14° W	Toronto	11° W
Calgary	18° W	Orlando	5° W	Vaduz	0° E
Canberra	12° E	Oslo	2° W	Vancouver	20° W
Chicago	3° W	Paris	2° W	Washington DC	10° W
Denver	10° E	Reykjavik	19° W	Wellington	22° E

6. Press D to end calibration.
   * If “ERR” indicating error is displayed, calibrate the compass again.
   * If there is no button operation for 2-3 minutes during calibration or at declination angle setting screen, the display will return to Compass mode automatically.

To take bearings

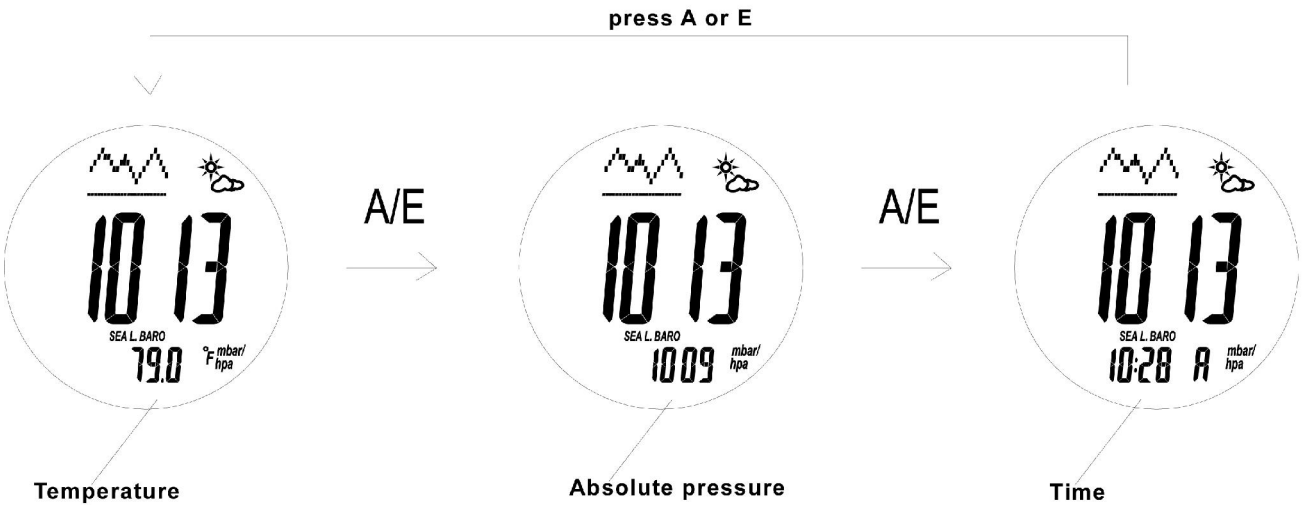
1. Press A, bearings will be taken and shown for about 10 seconds.
   * If no bearing is being taken, the display shows “----”.
2. Hold down A, bearings will be taken and shown continuously and for 10 seconds more after A is released.

6. BAROMETER MODE



Use C to enter Barometer mode.
* Mode prompt “BARO” is displayed first.
- Barometer mode indicator is shown.
- The barometer is of 1 hPa resolution and with working range from 300 hpa to 1100 hpa.
- Both sea level pressure and absolute pressure can be shown.
- Graph showing the changes in sea level pressure is provided.
  * Graph will be cleared only after battery replacement or reset.
- Weather forecast (indicated by the weather indicators) for the coming 24-48 hours is provided.
  * Forecast is accurate only if the barometer has been functioning for at least 12 hours.
- Temperature is of 0.1 degree resolution and with working range from -4°F (-20°C) to 158°F (70°C). And unit in °F or °C selectable.
- There are 3 displays for Barometer mode.

To switch among the 3 displays for barometer mode
Use A or E to switch among the 3 displays for barometer mode.

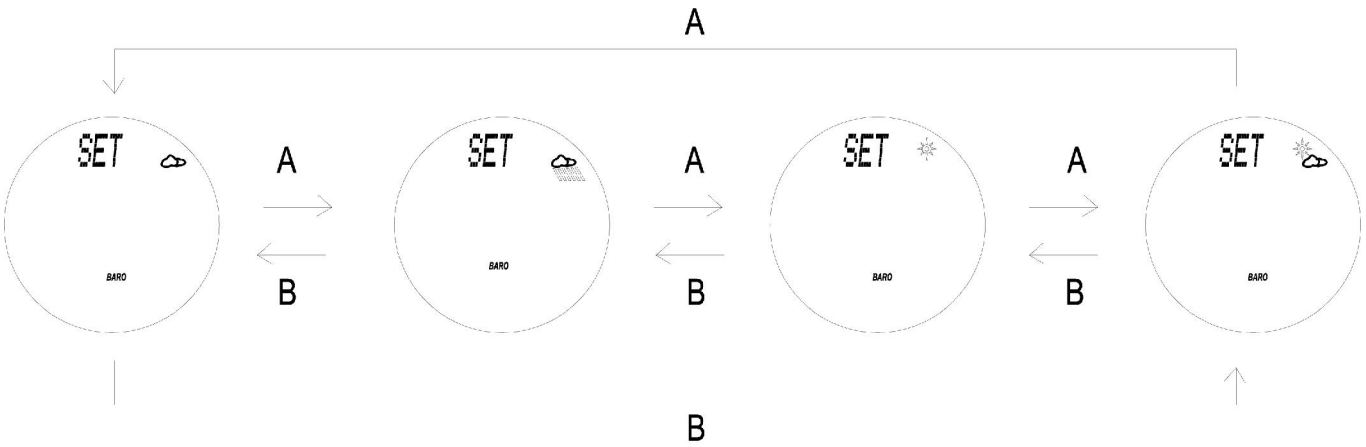


Reading the graph of sea level pressure
The graph shows the relative changes in sea level pressure in the past with the current pressure represented on the right. Each horizontal point represents one hour while each vertical point represents the relative reading of pressure in that time.
* It is not possible to get the exact reading from the graph. User can only get the trend of changes from the graph.

To switch between °F and °C
1. Use A or E to switch to the barometer display with temperature.
2. Hold down B until the unit indicator (°F or °C) stops flashing to switch temperature between °F and °C.

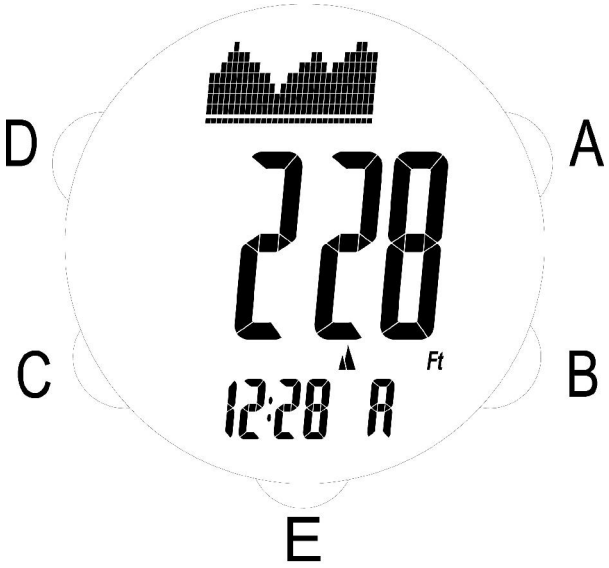
To set sea level pressure reading
1. Hold down D until “SET CURRENT WEATHER” scrolls on the display, which indicates the weather setting screen.
   * The weather indicators start to flash.
2. Press C, “SET SEA LEVEL PRESSURE” scrolls on the display, which indicates reading setting screen.
   * The current sea level pressure reading starts to flash.
3. Use A (+) and B (-) to change the setting. Holding down either button scrolls the setting at high speed.
4. Press D to exit the setting screen.
   * If there is no button operation for 2-3 minutes at setting screen, the display will return to Barometer mode automatically.

To set current weather
1. Hold down D until “SET CURRENT WEATHER” scrolls on the display, which indicates the weather setting screen.
   * The weather indicators start to flash.
2. Use A (+) and B (-) to change the setting as in the following:



3. Press D to exit the setting screen.
   * If there is no button operation for 2-3 minutes at setting screen, the display will return to Barometer mode automatically.

7. ALTIMETER MODE



Use C to enter Altimeter mode.
* Mode prompt “ALTI” is displayed first.
- Altimeter mode indicator is shown.
- The altimeter is of 1 meter (or foot) resolution and with working range from -700 meters (-2296 feet) to 9000 meters (29520 feet).
- Altitude reading in meters or feet selectable.
- Graph showing the changes in altitude is provided.
  * Graph will be cleared only after battery replacement or reset.
- Maximum 20 altitude data can be stored.

Reading the altitude graph
The altitude graph shows the relative changes in altitude in the past with the current altitude represented on the right. Each horizontal point represents 15 minutes while each column represents the relative reading of altitude in that time.
* It is not possible to get the exact reading from the graph. User can only get the trend of changes from the graph.

To switch between meters and feet
Hold down B until the unit indicator (M or Ft) stops flashing to switch altitude reading between meters and feet.

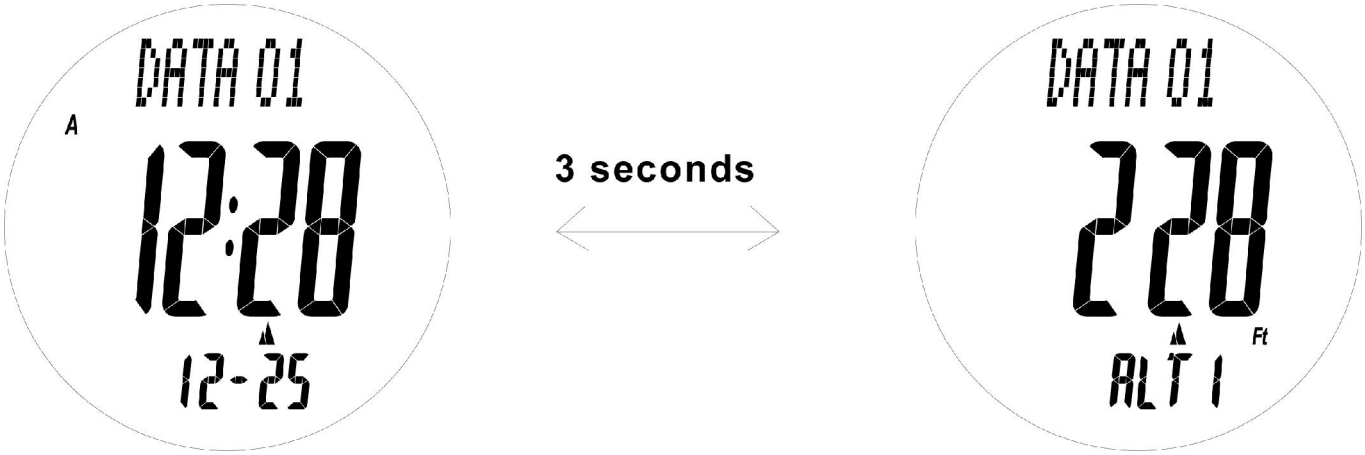
To store altitude data
Hold down A until “DATA” stops flashing to store the current altitude data.
* “STORED” and data number are shown.

To calibrate altitude reading
1. Hold down D until the current altitude reading starts to flash on the display (Text "HOLD", then in the top line "CAL"). This indicates the setting screen.
2. Use A (+) and B (-) to change the setting. Holding down either button scrolls the setting at high speed.
3. Press D to exit the setting screen.
   * If there is no button operation for 2-3 minutes at setting screen, the display will return to Altimeter mode automatically.

Display of the accumulated altitude change (ACC) and the maximum measured altitude (MAX)
By pressing the key A in the **Altimeter-Mode,** the top line in the LCD will show a moving text with the accumulated altitude changes and the highest measured altitude.
In the calibration mode (see above in "to calibrate altitude reading")**,** you may reset the two values to zero. While in the CAL mode, press the key C. The relevant setting will be shown in the top line of the LCD:
MAX: Press key A or B to reset the max value to zero. Then press again key C.
ACC: Press key A or B to reset the accumulated value to zero

The MAX and ACC memory will start to record again as soon as a pressure change is registered.

8. ALTIMETER DATA MODE

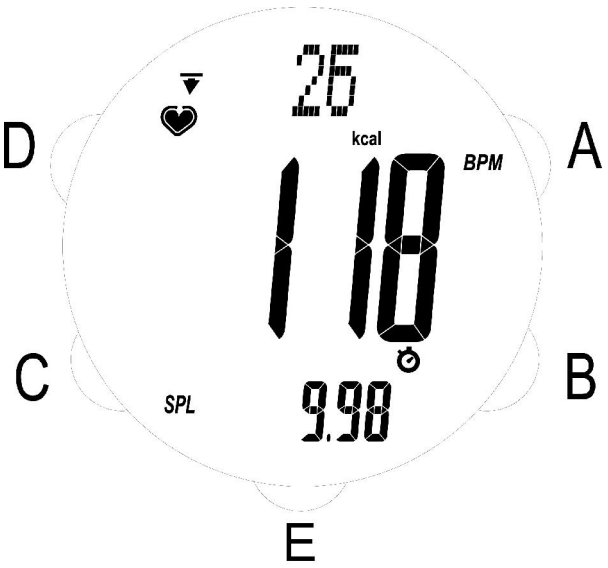


Use C to enter Altimeter Data mode.
* Mode prompt “ALTI DATA” is displayed first.
- Data number, time, date and altitude reading can be retrieved.
  * Altitude data are shown in 2 different displays.

To retrieve the altitude data
1. Use A (+) and B (-) to select the altitude data to be retrieved.
2. Press E to switch between the 2 displays of data.
   * If no button is pressed, the 2 displays will be shown for 3 seconds alternately.

To clear the altitude data
Hold down D until “----” is shown on the display to clear all altitude data stored.
* Altitude data cannot be cleared individually.

9. CHRONOGRAPH / HEART RATE MODE



Press key C to enter the Chronograph mode.
* Mode prompt “CHRO” is displayed first.
- Press key E to change the display from one to the other display options
- The chronograph is of 1/100-second resolution for the first hour and 1-second resolution for the rest and with a working range up to 24 hours. Upon reaching the 24hours, the chronograph stops automatically.

- For the first hour, the chronograph shows minutes, seconds and 1/100-seconds, then it shows hours, minutes and seconds.
  * Leading zeros will not be shown in the display.
- One split time may be measured.
  * When you take the split time, the display will be frozen for approx. 4 secs to show the split time. After this, the display changes back to the running chronograph automatically.

To measure elapsed time

1. Press A to start the chronograph.
2. Press B to stop the chronograph.
   * You can resume the measurement operation by pressing A.

To measure split time

1. Press A to start a time measurement.
2. Press A again when you want to take the split time.
3. Press A again when you want to take the next split time.
   * You may take only one split time and this is not memorized, only shown for 4 secs on the display.
4. Press B to stop the time measurement.

To clear time in current run

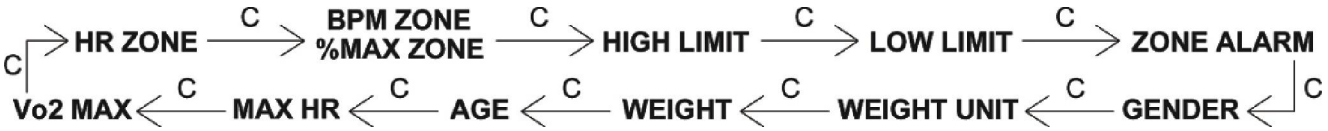
1. Press B to stop the chronograph.
2. Hold down D until the chronograph shows all zeros.
   * Time in current run is cleared.

Activate the Heart Rate Monitor in the CHRONO Mode

- The HRM is activated automatically when you start the chronometer
- When no chronometer is running, you may activate the HRM by pressing the key D
- When the HRM is active, a heart icon will be shown on the display. As soon as a signal is received, this icon starts to blink. The received pulse rate will then be shown after a few seconds in the display.
- If no signal is received for about 1 minute, the HRM will deactivate itself automatically (heart icon disappears from display). By pressing key D you may activate it again.
- When the training zone and (!) the training zone alarm are ON, the watch will give a sound every 5 seconds once your pulse is out of the training zone . If below (LO): 1 beep, if above (HI) 2 beeps.

Settings for the Heart Rate Monitor

To enter the setting mode for the HRM functions, press and hold key D until the display shows „HR Zone“. Before this, you will clear the time of your last run (if STW is not 00:00:00) and then, by still holding key D pressed, you will see USER HOLD SET
Once in the setting mode, the function to adjusts blinks and you may change it by pressing the keys A or B.
By pressing key C, you are getting from function to function.
Press key D to accept all settings and leave the setting mode.



HR ZONE =	Trainingzone on / off
GENDER =	MALE or FEMALE
WEIGHT UNIT =	Unit how you wish to enter your body weight (KG or LBS)
WEIGHT =	Enter your body weight
AGE =	Enter your age
MAX HR =	your max. pulse (the watch suggests a max BPM value "220-your age", you may change it ! Please consult your doctor or coach for your personal max. heart rate !
Vo2MAX =	Maximum intake of Oxygen.

When you activate the HR ZONE (=ON), you may enter the following extra data:

BPM ZONE / %MAX ZONE =	to select if the limits are in BPM (BPM ZONE) or in % of your maximum pulse (%MAX ZONE)
HIGH LIMIT =	Hi limit which shall not be passed by your BPM. (either in BPM or in % of your max heart rate.
LOW LIMIT =	Lo limit which shall not be passed by your BPM. (either in BPM or in % of your max heart rate.
ZONE ALARM =	Enable (ON) or disable (--) the acoustic sound when passing the lower or higher limit entered before.

Please note:

- the stopwatch is running up to max 24 hours and stops then automatically
- the 1/100 resolution of the stopwatch is for the first 59 Min. 59 Sec. only
- press the key E to change the display mode
  1- stopwatch in the middle, pulse top line, clock bottom line
  2- pulse in the middle, stopwatch bottom line
  3- same as 2, top line consumed calories
  4- same as 2, top line current pulse in % of max. heart rate.

- the heart rate monitor settings can only be entered, once the chronometer is stopped and once the chronometer memory is earased. The first press and hold of the key D will therefore clear the stopwatch memory ("CLEAR HOLD ---> CLR"). The next press and hold of key D will then give access to the settings ("USER HOLD SET ---> Setting Mode")
- the training zone can be set from 30 BPM to 240 BPM resp. 0-100% from your max. pulse rate
- the training zone "HI" must be higher than the "LO" value.
- if your currently measured heart rate is above or below your training zone and provided the training zone is enabled and the large middle display is showing the pulse rate, then the top line on the LCD will show HI (above training zone) or LO (below training zone)

- Important information for heart rate monitoring

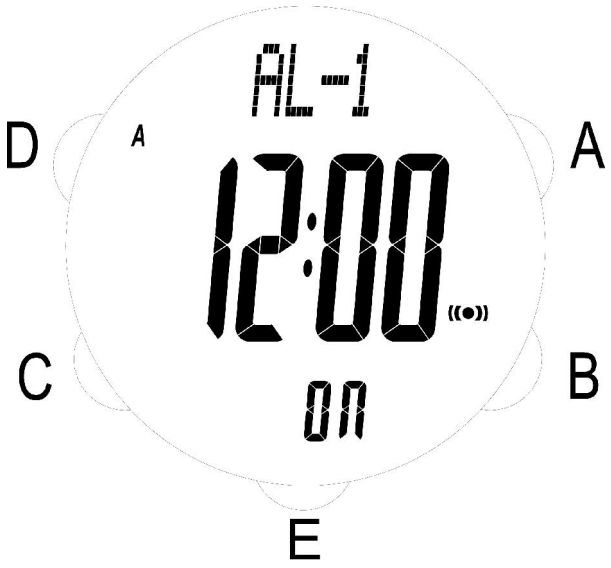
General information
- Please consult your doctor for your ideal and non-harmful training information (maximum pulse rate) if you have problems with your heart or have, in your lifetime, had a medical intervention on your heart.
- If you have just begun your training or are you planning on beginning regular training we strongly recommend that you set up a trainings plan with a doctor or fitness coach.

Heart rate monitoring with a chest belt
For persons with intensive physical activities (sports such as cycling, jogging etc.) and trainings where a focus is placed on the use of training zones, using a heart rate monitor is of great value.
Following rules apply hereby:
- The wireless pulse rate transmission distance from the chest belt to the watch is up to maximum 60 cm (that means approximately arm's length).
- Monitoring requires a good contact of the measuring surface to your body. The belt must be well attached to the body (so that the transmitter containing the battery is in the middle of the body or rather over the heart in the upper part of the chest muscle and just below the base of the breastbone). Avoid areas with a lot of hair.
- Moisten the contact surfaces (left and right of the transmitter) with a conductive fluid (contact gel is ideal, sweat or saliva. Normally tap water is also suitable.)

- In a dry and cold climate it may take a while for the transmitted values to become stable. This problem will resolve itself as soon as you begin to sweat from physical activity.

- Incorrect or missing transmission of data can be caused by the following:
  - The chest belt has insufficient contact with the body (skin is too dry or chest belt does not fit correctly)
  - Weak or empty batteries in the chest belt or in the watch
  - Your heart rate is under 30 beats per minute
  - Electro magnetic disturbances in the area (transformer station, electrical overland lines, thermionic screens from PCs and TVs, electric motors, in the car etc.)
  - Please note that the transmission distance of approximately 60 cm from a transmitter belt of a person in your immediate area can also be received on your watch. The overlapping of the signal from your belt and the foreign belt usually leads to very high monitored rates. This is also possible with chest belts from other brands! A bit of extra distance between you and the other person or wearing the watch on the other wrist usually solves this problem.
  - High amounts of chlorine in swimming pools and the salt content in sea water can, because of increased conductivity, affect monitoring.

10. ALARM MODE

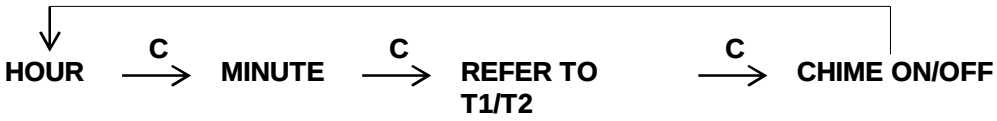


Use C to enter Alarm mode.
* Mode prompt “ALRM” is displayed first.
- There are 2 daily alarms and they can be set to refer to Normal Time (indicated by T1) or Dual Time (indicated by T2).
- Daily alarm sounds at the same time each day, while it is turned on.
- The alarm sounds at the preset time for about 20 seconds, or until you stop it by pressing any button.
- The alarm on indicator is only displayed at the time mode that the alarm is set to refer to.
- Hourly chime sounds at every full hour, while it is turned on.
  * If chime is turned on, confirmation sound will be given whenever a button is pressed.

To switch between alarm 1 and alarm 2
Press B to switch between alarm 1 (indicated by AL-1) and alarm 2 (indicated by AL-2).

To set alarm time and turn chime on and off
1. Hold down D until the hour digits start to flash on the display, which indicates the setting screen.
2. Use A (+) and B (-) to change the setting. Holding down either button scrolls the setting at high speed.
3. Press C to advance to the next setting as in the following:

C



* When TIME 1 or TIME 2 is flashing, press A or B to switch between setting the alarm to refer to Normal Time (TIME 1) and Dual Time (TIME 2).
* When ON or OFF is flashing, press A or B to turn the chime on (indicated by ON) and off (indicated by OFF). If chime is turned on, the chime on indicator will be shown after exiting setting screen.

4. Press D to exit the setting screen.
   * The alarm turns on, which is indicated by ON and the appearance of the alarm on indicator.
   * If there is no button operation for 2-3 minutes at setting screen, the display will return to Alarm mode automatically.

To turn the alarm on and off
Press A to turn the alarm on (indicated by ON) and off (indicated by OFF).
* If the alarm is turned on, the alarm on indicator will be shown.

11. SERVICE

11.1 RESETTING THE PRODUCT
Hold down A, B, C and D simultaneously, all segments will be “on”, then release the buttons and the product will be reset.
* After reset, there will not be any measurement of altitude, pressure or temperature until A, C or E is pressed.
* After reset, entering Compass mode will change to calibration screen directly.

11.2 BATTERY REPLACEMENT
Replace the exhausted battery with a CR2032 cell or equivalent.

Altimetermode with altitude change: measures every 2,5 seconds
Altimetermode without altitude change (barometer mode): every 2,5 minutes
Barometermode: measures every 2,5 minutes. Changes to Time mode after 24 hours
Temperature: measures every 2,5 minutes.

CE